

Work Order ID 52120

September 16, 2009 1:11:45 PM



Page 1

Item ID: D209-669-043

Accept



Setup Start



Revision ID: B

Stop



Item Name: Replacement Skidtube

Start Date: 09/16/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 09/30/2009 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: *mf*

Date: 09-09-16 Tooling:

Date:

Run Start



QC:

Date: SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

Draw Nbr

Revision Nbr

D2906

Rev B

100

0.00



DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy D209-669 bluefile & type labels per PPP D205-669-043 Chg 002

N/A

110

0.00



Skidtubes

Skidtubes

Memo

0.00

Skidtubes

1- Inspect mat'l D2500-1-190 for damage

2-Cut D2500-1-190 per Dwg D2906 if necessary Deburr ends

3-Acid etch and Alodine tube per QSI 005 4.1

am 09-09-22 ①

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
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| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
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Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

120

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

| W/O: | | WORK ORDER CHANGES | | | | | |
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Run Start



Stop



| Sequence ID/ Work Center ID | Operation Description | Set Up/ Run Hours | Draw Number | Draw Rev. | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|--------------------------------|--------------------------|----------------------|----------------|--------------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|----------------|--------------|--------------|---------------|---------------|------------------|----------------|

130

0.00



Skidtubes

Skidtubes

0.00

Memo

1-Drill pilot holes using drill jig DT8149, DT8711-2 & DT8711-3 (Do not use cutting fluid)

2-Open holes to 0.500" as per Dwg D2906 without cutting fluid

3-Countersink holes as per Dwg D2906 without cutting fluid

4-Deburr and blow out all chips from inside of tube

5-Bond web in place per QSI 015. Allow 12 Hrs. cure time before cutting

Pick:

Qty ☐ Part Number ☐ Description ☐ Batch

A/R ☐ Sikaflex-291 ☐ 112391 ☐

Sikaflex expire date: 10/02/00

Start Time: 3:00 PM Date: 09-09-22

Fin Time: 0 AM Date: 9-9-23

pick:

| Qty | P/N | description |
|-----|---------|-------------|
| 1 | D2926-3 | Web |

B/N 1-52065

Q.M 09-09-22

MA 09-09-22

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
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Run Start



QC: Date: SPC (Y/N): Date:

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|---|--|----------------------|----------------|--------------|--------------|---------------|---------------|------------------|----------------|
| 140 CNC Bend 1 CNC Delta 100 Bender | BENDING MACHINE - CROSSTUBES Memo 1-Bend as per program COB43FWD & COBRAFT on CNC Bender and Folio FT 2-Cut tubes as per Dwg. D2906 & per template DT8185B & DT8185BC | 0.00 0.00 | | | | | | | |
| 150 Skidtubes Skidtubes | Skidtubes Memo 1-Cut tube as per dwg and ensure ends are perpendicular to ridge 2-Deburr ends 3-Prepare tube for welding, remove alodine as required. | 0.00 0.00 | | | | | | | |
| 160 QC Quality Control | QC5- Inspect part completeness to step on W/O Memo | 0.00 0.00 | | | | | | | |

DP 9-9-23

N/A 1) a.m 09-09-23

2) 8 02/09/24

4

5

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
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NOTE: Date & initial all entries

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September 16, 2009 1:11:45 PM



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Cust Item ID:

Customer:



| Sequence ID/ Work Center ID | Operation Description | Set Up/ Run Hours | Draw Number | Draw Rev. | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|--------------------------------|--------------------------|----------------------|----------------|--------------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|----------------|--------------|--------------|---------------|---------------|------------------|----------------|

0.00

RESEARCH

0.00

Memo

1-Weld crossbolt spacers D2579 as per Dwg. D2906 and QSI 004.
For D2579 spacers, weld one side, pass 3/8" drill, weld other side, pass 3/8" drill
A/R [] [] Aluminum Rod *mill 999* *RF*

3/8" drill
09/09/24
a.m. 09.09.26 (1)
opper 9-9-26

3-Drill holes for wearplates using DT8217 Open holes to 19/64", adjust stopper not to hit web. Deburr

4-Counterbore crossbolt spacers to 7/16" ID x 1.0" deep as per Dwg D2906,
Deburr holes

5-Drill pilot holes for aft & fwd cap using DT8215 open holes to #6" Deburr

6-Drill pilot holes for Tow ring using DT8091-3 , open to .640"and Deburr

| | |
|---|------|
| QC10- Inspect visual per QSI004- ground welds | 0.00 |
|---|------|

00000000000000000000

0.00

Quality Control

Memo

2) S 09/02/20



| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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NOTE: Date & initial all entries

Work Order ID 52120

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Item ID: D209-669-043

Accept



Setup Start



Revision ID: B

Stop



Item Name: Replacement Skidtube

Start Date: 09/16/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 09/30/2009 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



| Sequence ID/ Work Center ID | Operation Description | Set Up/ Run Hours | Draw Number | Draw Rev. | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|---|---|---------------------------|----------------|--------------|--------------|---------------|---------------|------------------|----------------|
| 190 QC Quality Control | QC5- Inspect part completeness to step on W/O Memo | 0.00 0.00 ⇒ 80/100 | | | | (FL) 4 | | | |
| 200 HandFinish Hand Finishing | Pressure Wash per QSI005 4.3 Memo | 0.00 0.00 ⇒ 100/100 | | | | (X) 0 | | | |
| 210 Powdercoat Powder Coating | White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum Memo 1112260 START TIME: 2:45pm OVEN TEMPERATURE: 320°F FINISH TIME: 3:15pm | 0.00 0.00 ⇒ 100/100 | | | | (X) 0 | | | |

| W/O: | | WORK ORDER CHANGES | | | | | |
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NOTE: Date & initial all entries

Work Order ID 52120

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Item ID: D209-669-043

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Setup Start



Revision ID: B

Item Name: Replacement Skidtube

Stop



Start Date: 09/16/2009 Start Qty: 1.00



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Customer:

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

220

QC3- Inspect Part Finish

0.00

2502/01/38

0.00

Ⓟ Ⓟ



QC

Memo

Quality Control

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
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Setup Start

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Run Start

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|--------------------------------|--|----------------------|----------------|--------------|--------------|---------------|---------------|------------------|----------------|
| 230 | HandFinishing | 0.00 | | | | | | | |
| HandFinish | Memo | 0.00 | | | | ✓ | | | |
| Hand Finishing | 1-Install inserts & wearplates as per Dwg. D2906. Use a drop of Sikaflex on insert holes before installing wearplates A/R <input type="checkbox"/> <input checked="" type="checkbox"/> Sikaflex-291 <input type="checkbox"/> m112391 Sikaflex expire date: 10/20 | | | | | | | | |
| | 2-Coat D2594-3 O' rings with Petroleum Jelly and install on D2594-1 plugs as per Dwg D2906 | | | | | | | | |
| | 3-Inspect for foreign object per QSI 024 | | | | | | | | |
| | 4-Install D2855 Fwd & Aft Cap as per Dwg D2906 and seal Fwd & Aft Cap with Sikaflex. Clean excess adhesive A/R <input type="checkbox"/> <input checked="" type="checkbox"/> Sikaflex-291 <input type="checkbox"/> m112391 Sikaflex expire date: 10/20 | | | | | | | | |
| | 5-Wing Walk as per Dwg D2906 and QSI 005 4.4 Batch: m112106 | | | | | | | | |

MD 09/10/01

| W/O: | | WORK ORDER CHANGES | | | | | |
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QtyReject
NumberInsp.
Stamp

240

QC5- Inspect part completeness to step on W/O

0.00

27 8/21/09



QC

Memo

0.00

Quality Control

Inspect Aft Cap, Fwd Step and Wing Walk of work to Current Step Inspect for Foreign objects per QSI 024



250

Packaging

0.00



Packaging

Memo

0.00

Packaging

Identify and pack for shipping as per PPPD209-669-043

Location:

PPP Rev: PPD 52136

09/10/09 (1)

260

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

09/10/09

mf 09-10-05

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
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Picklist Print

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Work Order ID: 52120



Parent Item: D209-669-043RevB



Parent Item Name: Replacement Skidtube

Start Date: 09/16/2009

Required Date: 09/30/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

| Component Item ID/ Item Name | Replacement Item ID | Mfg/ Purch | Bin Item | Primary Location | Last Location | Route Seq ID | Unit of Measure | Qty on Hand | Remaining Qty To Pick | Qty Issued | Date Issued | Status |
|---------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|--------------------------|---------------|----------------|--------|
| D2500-1-190RevU/R | | Manufactured | No | | | 110 | Each | 0.0000 | 1.0000 | | | |
| | | | | | | | | | | | | |
| Ext'n - I' Beam Tube 4" | | | | | | | | | | | | |
| D2926-3RevA | | Manufactured | No | | | 110 | Each | 1.0000 | 1.0000 | | | |
| | | | | | | | | | | | | |
| Web | | | | | | | | | | | | |

B-50166 MB 09-09-22

B-52065 MB 09-09-22

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

1

46846

1

D2579RevE

Manufactured No

170

Each

284.0000

19.0000



Crossbolt Spacer

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

284

43988

4

46434

4

46956

2

47797

9

48272

2

51314

100

51315

163

* B 51525 (19)

BE 09/09/24

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

NOTE: Date & initial all entries

Picklist Print

Page 2

September 16, 2009 1:11:45 PM

Work Order ID: 52120



Parent Item: D209-669-043RevB



Parent Item Name: Replacement Skidtube

Start Date: 09/16/2009

Required Date: 09/30/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

| Component Item ID/ Item Name | Replacement Item ID | Mfg/ Purch | Bin Item | Primary Location | Last Location | Route Seq ID | Unit of Measure | Qty on Hand | Remaining Qty To Pick | Qty Issued | Date Issued | Status |
|---------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|--------------------------|---------------|----------------|--------|
| D2855RevA | | Manufactured | No | | | 230 | Each | 15.0000 | 2.0000 | | | |
| | | | | | | | | | | | | |
| Cap | | | | | | | | | | | | |

| <u>Warehouse</u> | <u>Loc Qty</u> | <u>Loc Code</u> |
|------------------|----------------|-----------------|
| <u>Location</u> | | |
| Main Warehouse | 50770 | |
| FP6 | 15 | |
| 50513 | 15 | |

x2 mo 09/10/09

| | | | | | | | | | | | | |
|--------|--|-----------|----|--|--|-----|------|-----------|--------|--|--|--|
| AN3-5A | | Purchased | No | | | 230 | Each | 2,461.000 | 4.0000 | | | |
| | | | | | | | | | | | | |
| Bolt | | | | | | | | | | | | |

| <u>Warehouse</u> | <u>Loc Qty</u> | <u>Loc Code</u> |
|------------------|----------------|-----------------|
| <u>Location</u> | | |
| Main Warehouse | | |
| ST | 2461 | |
| 100188 | 192 | |
| 105055 | 2243 | |
| 15205 | 26 | |

x4 mo 09/10/09

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

NOTE: Date & initial all entries

Picklist Print

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Page 3

Work Order ID: 52120

Parent Item: D209-669-043RevB

Parent Item Name: Replacement Skidtube



Comments:

Start Date: 09/16/2009

Required Date: 09/30/2009

Start Qty: 1.00

Required Qty: 1.00

| Component Item ID/ Item Name | Replacement Item ID | Mfg/ Purch | Bin Item | Primary Location | Last Location | Route Seq ID | Unit of Measure | Qty on Hand | Remaining Qty To Pick | Qty Issued | Date Issued | Status |
|--|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|---|---------------|----------------|--------|
| AN960JD10L  | | Purchased | No | | | 230 | Each | 6,485.000 | 4.0000 | | | |
| Washer | | | | | | | | |  | | | |

Warehouse
Location

Loc Qty

Loc Code

Main Warehouse

ST

6485

101291

16

104885

153

105793

236

109632

1080

110985

5000

x4 mo 09/10/01

ALS7-1032-130

Purchased

No

230

Each

3,348.000

44.0000



Insert



Warehouse

Location

Loc Qty

Loc Code

Main Warehouse

ST

3348

105855

16

108606

52

111529

1488

111779

1792

x4 mo 09/10/01

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

NOTE: Date & initial all entries

Picklist Print

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Page 4

Work Order ID: 52120

Parent Item: D209-669-043RevB

Parent Item Name: Replacement Skidtube


Comments:

Start Date: 09/16/2009

Required Date: 09/30/2009

Start Qty: 1.00

Required Qty: 1.00

| Component Item ID/ Item Name | Replacement Item ID | Mfg/ Purch | Bin Item | Primary Location | Last Location | Route Seq ID | Unit of Measure | Qty on Hand | Remaining Qty To Pick | Qty Issued | Date Issued | Status |
|--|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|--------------------------|---------------|----------------|--------|
| AN3C4A  BOLT | | Purchased | No | | | 230 | Each | 400.0000 | 44.0000 | | | |

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

112720

400

112082

14

112314

140

112612

246

x44 mp 09/10/01

AN960C10L



washer

Purchased

No

230

Each

6,964.000

44.0000

Warehouse

Loc Qty

Loc Code

Location

OFFSHORE

FG

100

103585

100

Main Warehouse

ST

6864

112116

1864

112612

5000

x44 mp 09/10/01

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

NOTE: Date & initial all entries

Picklist Print

September 16, 2009 1:11:45 PM

Work Order ID: 52120



Parent Item: D209-669-043RevB



Parent Item Name: Replacement Skidtube

Start Date: 09/16/2009

Required Date: 09/30/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

| Component Item ID/ Item Name | Replacement Item ID | Mfg/ Purch | Bin Item | Primary Location | Last Location | Route Seq ID | Unit of Measure | Qty on Hand | Remaining Qty To Pick | Qty Issued | Date Issued | Status |
|---------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|--------------------------|---------------|----------------|--------|
| D2594-3RevC | | Manufactured | No | | | 230 | Each | 864.0000 | 14.0000 | | | |
| | | | | | | | | | | | | |
| O-Ring, 205 Skidtube | | | | | | | | | | | | |

Warehouse Loc Qty Loc Code
Location

Main Warehouse

FP 500

51613 500

Main Warehouse

ST 364

27168 44

29908 320

X14 mo 09/10/01

D2594-1RevC Manufactured No



Plug, 205 Skidtube

230 Each 1,121.000 14.0000



Warehouse Loc Qty Loc Code
Location

Main Warehouse

ST 1121

42221 16

42807 92

43884 3

46435 2

47251 83

51527 100

51757 825

X14 mo 09/10/01

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

NOTE: Date & initial all entries

Picklist Print

September 16, 2009 1:11:45 PM

Work Order ID: 52120

Parent Item: D209-669-043RevB

Parent Item Name: Replacement Skidtube


Comments:

Start Date: 09/16/2009

Required Date: 09/30/2009

Start Qty: 1.00

Required Qty: 1.00

| Component Item ID/ Item Name | Replacement Item ID | Mfg/ Purch | Bin Item | Primary Location | Last Location | Route Seq ID | Unit of Measure | Qty on Hand | Remaining Qty To Pick | Qty Issued | Date Issued | Status |
|--|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|--------------------------|---------------|----------------|--------|
| D3564-9RevD | | Manufactured | No | | | 230 | Each | 45.0000 | 1.0000 | | | |
|  | | | | | | | | | | | | |
| Wearshoe | | | | | | | | | | | | |

| <u>Warehouse</u> | <u>Loc Qty</u> | <u>Loc Code</u> |
|------------------|----------------|-----------------|
| <u>Location</u> | | |
| Main Warehouse | | |
| FP19 | 40 | |
| 51675 | 40 | |
| Main Warehouse | | |
| ST | 5 | |
| 44659 | 1 | |
| 45825 | 1 | |
| 51258 | 3 | |

X1 mo 09/10/01

D3564-11RevD Manufactured No



Wearshoe

| <u>Warehouse</u> | <u>Loc Qty</u> | <u>Loc Code</u> |
|------------------|----------------|-----------------|
| <u>Location</u> | | |
| Main Warehouse | | |
| FP | 13 | |
| 51256 | 13 | |
| Main Warehouse | | |
| ST | 2 | |
| 45823 | 1 | |
| 50112 | 1 | |

X1 mo 09/10/01

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

NOTE: Date & initial all entries

Picklist Print

September 16, 2009 1:11:45 PM

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Work Order ID: 52120



Parent Item: D209-669-043RevB



Parent Item Name: Replacement Skidtube

Start Date: 09/16/2009

Required Date: 09/30/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

| Component Item ID/ Item Name | Replacement Item ID | Mfg/ Purch | Bin Item | Primary Location | Last Location | Route Seq ID | Unit of Measure | Qty on Hand | Remaining Qty To Pick | Qty Issued | Date Issued | Status |
|---------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|--------------------------|---------------|----------------|--------|
| D3564-5RevD | | Manufactured | No | | | 230 | Each | 47.0000 | 1.0000 | | | |
| | | | | | | | | | | | | |
| Wearshoe | | | | | | | | | | | | |

| <u>Warehouse</u> | <u>Loc Qty</u> | <u>Loc Code</u> |
|------------------|----------------|-----------------|
| <u>Location</u> | | |
| OFFSHORE | | |
| FG | 2 | |
| 34806 | 2 | |
| Main Warehouse | | |
| FP19 | 43 | |
| 51257 | 2 | |
| 51655 | 41 | |
| Main Warehouse | | |
| ST | 2 | |
| 45824 | 1 | |
| 47433 | 1 | |

X1 mo 09/10/01

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
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| | | | | | | | | |

NOTE: Date & initial all entries

Picklist Print

September 16, 2009 1:11:45 PM

Work Order ID: 52120



Parent Item: D209-669-043RevB



Parent Item Name: Replacement Skidtube

Start Date: 09/16/2009

Required Date: 09/30/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

| Component Item ID/ Item Name | Replacement Item ID | Mfg/ Purch | Bin Item | Primary Location | Last Location | Route Seq ID | Unit of Measure | Qty on Hand | Remaining Qty To Pick | Qty Issued | Date Issued | Status |
|---------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|--------------------------|---------------|----------------|--------|
| D3566-1RevC | | Manufactured | No | | | 230 | Each | 49.0000 | 2.0000 | | | |
| | | | | | | | | | | | | |

Gasket

Warehouse Loc Qty Loc Code

Location

Main Warehouse

FP

51612

51912

Main Warehouse

ST

46349

47434

51218

51259

39

23

16

10

1

2

1

6

52313

x2 mo 09/10/09

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
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| | | | | | | | | |
| | | | | | | | | |

NOTE: Date & initial all entries

Picklist Print

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Work Order ID: 52120



Parent Item: D209-669-043RevB



Parent Item Name: Replacement Skidtube

Start Date: 09/16/2009

Required Date: 09/30/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

| Component Item ID/ Item Name | Replacement Item ID | Mfg/ Purch | Bin Item | Primary Location | Last Location | Route Seq ID | Unit of Measure | Qty on Hand | Remaining Qty To Pick | Qty Issued | Date Issued | Status |
|---------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|--------------------------|---------------|----------------|--------|
| D3566-5RevC | | Manufactured | No | | | 230 | Each | 55.0000 | 1.0000 | | | |



Gasket

| <u>Warehouse</u> | <u>Loc Qty</u> | <u>Loc Code</u> |
|------------------|----------------|-----------------|
| <u>Location</u> | | |
| Main Warehouse | | |
| FP | 12 | |
| 51929 | 12 | |
| Main Warehouse | | |
| FP19 | 36 | |
| 51669 | 36 | |
| Main Warehouse | | |
| ST | 7 | |
| 36113 | 1 | |
| 46186 | 1 | |
| 47318 | 1 | |
| 51260 | 4 | |

x1 mtd 09/10/09

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

NOTE: Date & initial all entries



| QTY -041 | QTY -043 | Part Number | Description |
|-------------|-------------|---|-----------------------------|
| X | | D2906-041 | SKIDTUBE ASSEMBLY |
| | X | D2906-043 | SKIDTUBE ASSEMBLY |
| 1 | 1 | D2500-1-190 | EXTRUSION |
| 22 | 19 | D2579 | CROSS BOLT SPACER |
| 12 | 14 | D2594-1 | PLUG |
| 12 | 14 | D2594-3 | O-RING |
| 2 | 2 | D2855 | AFT CAP |
| 1 | | D2926-1 | WEB |
| | 1 | D2926-3 | WEB |
| 1 | 1 | D3564-9 | WEARSHOE (REPLACES D2577-1) |
| 1 | 1 | D3564-11 | WEARSHOE (REPLACES D2577-3) |
| 1 | 1 | D3564-5 | WEARSHOE (REPLACES D2577-5) |
| 1 | | D3564-15 | WEARSHOE |
| 2 | 2 | D3566-1 | GASKET |
| 1 | 1 | D3566-5 | GASKET |
| 1 | | D3566-15 | GASKET |
| 50 | 44 | ALS7-1032-130 or AKS7-1032-130 or AKS4-1032-130 or ALS4-1032-130 | INSERT |
| 50 | 44 | AN3C4A | BOLT |
| 4 | 4 | AN3-5A | BOLT |
| 50 | 44 | AN960C10L | WASHER |
| 4 | 4 | AN960JD10L | WASHER |

52120

GENERAL NOTES:

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 2) LENGTH OF D2500-1 EXTRUSION BEFORE BENDING = 190 INCHES.
- 3) INSERT D2926-1/-3 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241/291 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- 4) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 5) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 6) USE DART DRILL TEMPLATE DT2906-041T1 (D2906-041) OR DT2906-043T1 (D2906-043) TO LOCATE AND DRILL $\varnothing 0.297$ HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTION C-C AFTER FINISH. INSTALL AN3C4A BOLTS AND AN960C10L WASHERS WITH SIKAFLEX-241/291.
- 7) WELDING TO BE DONE PER DART QSI 004.
- 8) FINISH:
ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2926-1/-3 WEB. POWDER COAT ASSEMBLY WHITE (REF 4.3.5.1) PER DART QSI 005 4.3 BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4
- 9) INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (12 PLACES).
- 10) ALL DIMENSIONS ARE IN INCHES.

RELEASED

07-09-04

| | | | |
|------------|---|--|--------------|
| B | UPDATE DRAWING FORMAT; RE-ORGANIZE; ADD STAINLESS STEEL WEARPLATES AND GASKETS CHANGE WEARPLATE HARDWARE TO SS; PG 1: ADD NOTE 10; PG 2 C7: REMOVE AFT $\varnothing 0.640$ HOLE FROM -041; PG 3 C3: CORRECTED -043 CAP P/N; PG 3 D7: 38 PLACES WAS 44 PLACES; | CB | 07.08.21 |
| A | NEW ISSUE | CP | 04.06.22 |
| REV. | DESCRIPTION | BY | DATE |
| DESIGN | q | DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA | |
| DRAWN | C.B | | |
| CHECKED | PH | DRAWING NO. | REV. B |
| MFG. APPR. | 21 | D2906 | SHEET 1 OF 3 |
| APPROVED | 14 | TITLE | SCALE |
| DE APPR. | 14 | AH-1 (209) SKIDTUBE ASSEMBLY NTS | |
| DATE | 07.08.21 | COPYRIGHT © 2004 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD. | |

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
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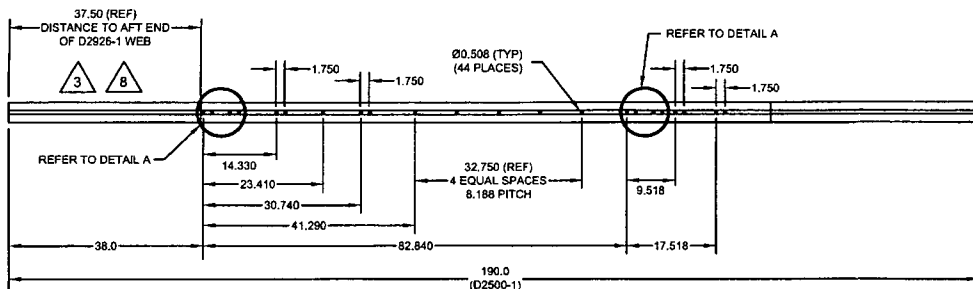
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

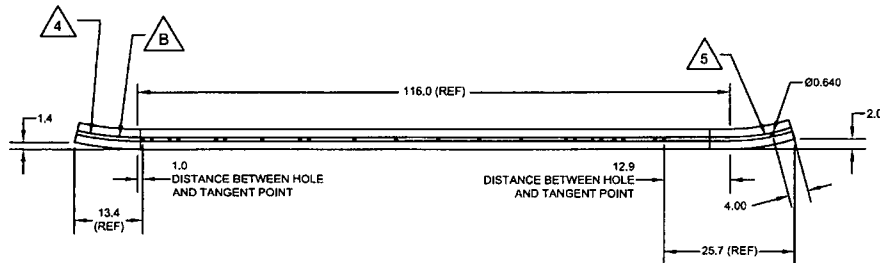
| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
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NOTE: Date & initial all entries

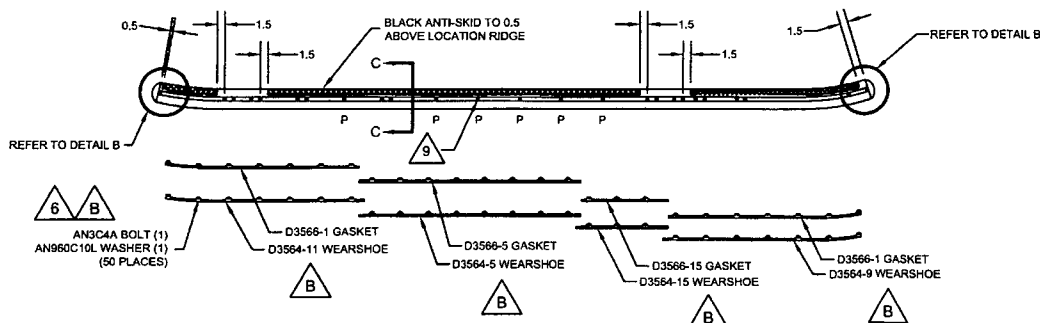
8 7 6 5 4 3 2 1



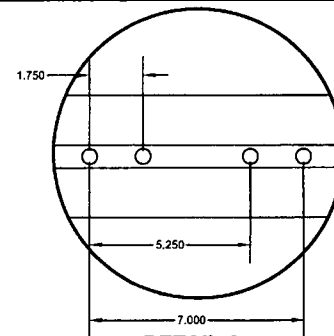
D2906-1 DRILLING DETAIL



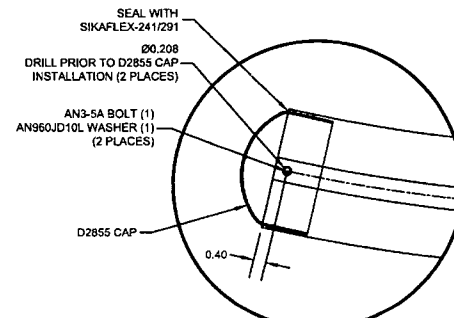
D2906-041 BENDING AND CUTTING DETAIL



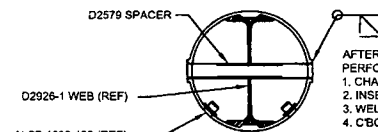
D2906-041 ASSEMBLY DETAIL



DETAIL A
SCALE 1:4



DETAIL B
SCALE 1:4



SECTION C-C
SCALE 1:4

AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:
1. CHAMFER HOLE 0.050 X 45°
2. INSERT D2579 SPACER (22 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. CBORE D2579 SPACER TO Ø0.437 X 1.00 DEEP

| | | | |
|------------|-------------|--|--------------|
| DESIGN | <i>P</i> | DART AEROSPACE LTD | |
| DRAWN | <i>C.B.</i> | HAWKESBURY, ONTARIO, CANADA | |
| CHECKED | <i>PH</i> | DRAWING NO. D2906 | REV. B |
| MFG. APPR. | <i>PH</i> | | SHEET 2 OF 3 |
| APPROVED | <i>PH</i> | TITLE | SCALE |
| DE APPR. | <i>PH</i> | AH-1 (209) SKIDTUBE ASSEMBLY | 1:24 |
| DATE | 07.08.21 | COPYRIGHT © 2004 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMING OR CONSULTED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD | |

RELEASED
07.09.04
#50130

8 7 6 5 4 3 2 1

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

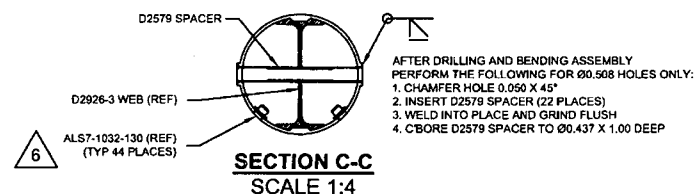
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
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NOTE: Date & initial all entries



07.09.04 #



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|------------|----------|---|--------------|
| DESIGN | 9 | DART AEROSPACE LTD | |
| DRAWN | C.B. | HAWKESBURY, ONTARIO, CANADA | |
| CHECKED | PH | DRAWING NO. | REV. B |
| MFG. APPR. | 21 | D2906 | SHEET 3 OF 3 |
| APPROVED | 20 | TITLE | SCALE |
| DE APPR. | 11 | AH-1 (209) SKIDTUBE ASSEMBLY 1:24 | |
| DATE | 07.08.21 | COPYRIGHT © 2004 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS UNDERSTANDING THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD | |

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
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| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
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NOTE: Date & initial all entries

NO. 208

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barclay Elliott
Job number: 52165
Part number: A209-669-043
Description: 209 Skid tube
Welding Process: Tig[☒] Mig[]
Base material: Alum
Current: AC[☒] DC[]

TEST REQUIREMENTS AND RESULTS

Visual: pass[☒] fail[]
Penetration: pass[☒] fail[]

UNACCEPTABLE

Cracks: pass[☒] fail[]
Undercut: pass[☒] fail[]
Pin holes: pass[☒] fail[]
Overlap (cold lap): pass[☒] fail[]
Porosity (surface): pass[☒] fail[]
Coloration: pass[☒] fail[]

Qualifier David Angel Date of Test Coupon 09/09/23
Welder Barclay Elliott Date of Test Coupon 09/09/23

The above named individual is qualified in accordance with AWS D17.1.2001 to weld